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A CRITICAL ANALYSIS OF THE FINANCIAL OPERATIONS OF THE MILITARY SEA TRANSPORTATION SERVICE UNDER THE NAVY INDUSTRIAL FUND

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Gerald I. Ainsworth

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by

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Lieutenant, United States Navy

Submitted in partial fulfillment of
the requirements for the degree of

MASTER OF SCIENCE
IN
MANAGEMENT

United States Naval Postgraduate School
Monterey, California

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This work is accepted as fulfilling
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from the
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ABSTRACT

The Military Sea Transportation Service is one of the largest activities financed by an industrial fund. Its operations under the Navy Industrial Fund have been credited with millions of dollars of savings annually. The accounting theories and concepts underlying the MSTS accounting system are discussed and their contributions to fund accounting noted. The objectives of the Navy Industrial Fund as they pertain to MSTS are developed. Financial data are analyzed and conclusions drawn based on the ability of the Military Sea Transportation Service to meet its stated objectives.

TABLE OF CONTENTS

CHAPTER PAGE

I. THE PROBLEM AND DEFINITIONS OF TERMS USED . . . 1

The Problem 1

Statement of the problem 1

Importance of the study 1

Definitions of Terms Used 2

MSTS nucleus ships 2

Time charters 2

Voyage charters 2

Berth services 2

Review of the Literature 3

Summary 8

II. ACCOUNTING THEORY AND APPLICATION TO GOVERNMENT 9

Accounting Theory 9

Proprietary theory 9

Entity theory 10

Fund theory 11

Applications to Government 15

The Navy Industrial Fund 15

The Military Sea Transportation Service . . 16

Determining tariffs 17

III. THE ANALYSIS 20

Buyer-Seller Relationships 21

CHAPTER PAGE

MSTS Accounting 23

Expenses 23

Variable costing 24

Budgets 27

Decision making 27

Break-even analysis 28

Costs of Service 28

Operations at cost 30

Nucleus ships and employees afloat 32

Employees ashore 34

Costs of Transportation 36

Cargo transportation costs 38

Passenger transportation costs 38

Petroleum transportation costs 43

Summary 43

IV. SUMMARY AND CONCLUSIONS 46

Summary 46

Conclusions 47

Recommendations for Further Study 48

BIBLIOGRAPHY 51

APPENDIX 55

LIST OF TABLES

TABLE PAGE

I. Military Sea Transportation Service Incomes, Expenses, and Profits For Fiscal Years 1955 Through 1964 31

LIST OF FIGURES

FIGURE PAGE

1. Comparison of Total Overhead Expenses With Total Annual Expenses 26
2. Comparison of Total Income From MSTS Manned Nucleus Ships With the Number of Nucleus Ships and Marine Employees 33
3. Comparison of Total Expenses of MSTS With the Number of Civilian Employees Ashore 35
4. Comparison of the Costs of Transporting Passengers 1,000 Passenger Miles With the Costs of Transporting Cargo 1,000 M/T Miles and the Costs of Transporting Petroleum 1,000 L/T Miles . 37
5. Comparison of the Average Cost of Transporting Cargo 1,000 M/T Miles With the Cost of Transporting Cargo 1,000 M/T by Shipping Contract and MSTS Nucleus Fleet 39
6. Comparison of the Average Cost of Transporting Passengers 1,000 Miles With the Average Cost of Transporting Cabin and Troop Passengers. . . . 40
7. Comparison of the Average Cost of Transporting Cabin Passengers 1,000 Miles With the Cost of Transporting Cabin Passengers 1,000 Miles By MSTS Nucleus and Commercial Ships 42

FIGURE PAGE

8. Comparison of the Average Cost of Transporting Petroleum 1,000 L/T Miles With the Cost of Transporting Petroleum by Contractor Operated Tankers and MSTS Nucleus Ships 44

CHAPTER I

THE PROBLEM AND DEFINITION OF TERMS USED

Governmental economists have long been concerned with the means of increasing efficiency in governmental operations. A large portion of the effort along this line has been centered around the various devices for simulating a market-and-price system in government operations. Considerable success has been claimed through the use of the various industrial funds. The Military Sea Transportation Service is one of the largest organizations financed under the Navy Industrial Fund.

I. THE PROBLEM

Statement of the problem. It is the purpose of this study to determine the objectives of industrial funds and the extent that the Military Sea Transportation Service has met these objectives in its financial operations.

Importance of the study. Hitch and McKean in *The Economics of Defense in the Nuclear Age*[1], estimated the annual savings since commencing operations under the Navy Industrial Fund at one hundred million dollars annually.

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[1] Charles J. Hitch and Roland N. McKean, *The Economics of Defense in the Nuclear Age* (Cambridge: Harvard University Press, ~~1946~~), p. 225.
1963

There is little doubt that operations of MSTS under the Navy Industrial Fund have saved large amounts of money in the total defense effort, but that the internal operations of MSTS have become more efficient is not readily apparent.

II. DEFINITION OF TERMS USED

MSTS nucleus ships. The MSTS nucleus fleet is made up of ships owned by the United States Government and operated by MSTS. It contains commissioned U. S. Navy ships manned by Naval officers and men. The bulk of the nucleus fleet is made up of other government owned ships in service but not in commission. They are manned either by Civil Service marine personnel or operated for MSTS by commercial shipping companies and manned by merchant seamen.

Time charters. Time charters are commercial tramp ships contracted for as carriers for a period of time. They do not follow fixed schedules but operate whenever they find it most advantageous.

Voyage charters. Voyage charters are the same as time charters except that the ships are contracted for only a single voyage or series of voyages instead of for a fixed period of time.

Berth services. Berth services are those which hold themselves out as common carriers for cargo and/or

passengers on established routes, observing regularly advertised schedules.

III. REVIEW OF THE LITERATURE

Lyon defines an industrial fund as financing "by a revolving fund which pays all costs of making a product or performing a service and which is repaid, after completion of a task, from appropriated funds."[2] He points out that the use of an industrial fund for financing an activity is accompanied by the introduction of double entry, accrual accounting patterned after systems used in private industry. The industrial fund simplifies funding of governmental agencies by permitting all charges (including overhead) to be made initially to one fund, allowing overhead to be administered flexibly and pro-rated to orders rather than charged to separate appropriation limitations, and charging appropriated funds by one total cost for each order.[3] The introduction of the industrial fund permits management and accounting techniques such as engineered time standards, standard cost, and operating budgets to be employed by the management of the activity. Another advantage claimed for

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[2] L. P. Lyon, "Do We Need a Reevaluation of the Industrial Fund?" The Armed Forces Comptroller, III (June 1958), 22.

[3] Ibid., p. 23.

the industrial fund is the ability to purchase and store materials prior to use. This is a highly desirable point for those installations using an extensive amount of non-standard material.[4]

He points out that many of the advantages claimed for industrial funds are not truly advantageous over regular appropriation accounting. Most of these accounting improvements can be realized under either system of funding. The advantage of simplified funding is only true for those activities whose financing is quite complex. A number of the military's industrial plants are financed principally by only one or two allotments, not by many.[5] Lyon also notes that Public Law 863 requires that government accounting generally be on a double entry, accrual basis. "Engineered time standards, standard cost, and operating budgets can obviously be used, when desirable, with either method of funding."[6] Lyon concludes by stating that industrial funds should be considered for use when any of the following exists.

1. A true buyer-seller relationship.
2. There is a necessary complex funding pattern.
3. A definite need for extensive purchase of non-standard materials for inventory.[7]

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① [4] *Ibid.*, pp. 23-24. [5] *Ibid.*, p. 23. [6] *Ibid.*, p. 24

[7] Ibid., p. 25.

Critics of the buyer-seller relationship have said,

> . . . if the buyer cannot select his source of supply or service on a fully competitive basis--either in house or outside--there is no advantage in establishing buyer-seller relationships. They were blind to any other advantages of such a relationship.[8]

Buyer-seller relationships between industrial fund activities and their customers are not the same as between private enterprises. Even though the freedom of choice is restricted, the contractual nature of the relationship provides real value in the execution of the work to be done by the producer.[9]

Customers of industrial fund activities serve as critics of the activity's operations and through their criticisms bring about economies of operation that would not occur under appropriation funding. Stone claims that this criticism has been quite effective in the past, but there is still much that can be done to improve future operations. If all customers of fund activities would fulfill their responsibilities as buyers by being specific as to requirements and critical of performance and costs, the incentives for better management of the industrial activities would induce greater improvements in performance and cost savings than directives or commands from higher echelons could ever

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[8] F. E. Stone, "Economy In Industrial and Commercial Type Activities Fostered By Use of Revolving Funds," The Armed Forces Comptroller, VIII (June 1963), 15.

[9] *Ibid.*, p. 16.

achieve.[10]

The working capital fund is essentially a device developed to identify the responsibility for using resources in operations where there is a continuous selection among optional ways of carrying out activities.

> Essentially a governmental buyer-seller unit is an attempt to impose on a sprawling network of military units the coordination and constraints that a business firm participates in meting out to economic units (resource-owners and consumers) in a market . . . . And it is with this respect to this role that it should be evaluated.[11]

Doctor Breckner contends that in conducting the evaluation, "the critical question concerns the extent to which it parallels the responsibility borne by decision-makers competing for resources in a market environment".[12] The buyer-seller device should be examined against the following tests:

1. Does it provide appropriate restraints on the principal resource users?
2. Does it provide appropriate information to signal and guide decisions that yield responsive adjustments in the flow of resources among interdependent activities?
3. Does it provide appropriate inducements . . . (a) to motivate the adjustment decisions with respect to

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[10] Ibid., p. 18

[11] Norman Breckner, Government Efficiency and the Military Buyer-Seller Device (Santa Monica: The Rand Corporation, 1959), p. 4.

[12] Ibid., p. 15.

> the types and quantities of material that flows toward various uses, and (b) to foster cost minimizing behavior within the management device itself, by means other than diluting the services offered the sheltered seller? Does it yield an appropriate review-and-appraisal criterion?
>
> 4. Will its observable results provide appropriate criteria and information for the decisions of those who must periodically approve the large, discreet grants of expenditure authority both to the buyer-seller institutions and to other military units that purchase from them?[13]

Lieutenant Commander Boney examined MSTS operations through 1960. He concludes that operations can be improved if Commander, Military Sea Transportation Service would be granted authority to establish temporary percentage tariff revisions without prior approval of the Assistant Secretary of Defense (Comptroller). This would allow net income to be adjusted more quickly to meet current trends.[14] He also states, "An outrageous sum is being spent each year to pay civilians who man nucleus ships that should be part of the Navy and manned by Navy personnel."[15] He claims this is not in line with getting the most for the dollar. "If we require a nucleus fleet, then put it in the Navy, and let private industry handle the shipping that could not be carried by the hard core of Navy ships."[16] Lieutenant

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[13] Ibid., pp. 15-16

[14] B. E. Boney, "An Analysis of MSTS as Single Manager Under the Navy Industrial Fund," (Unpublished paper, United States Naval Postgraduate School, 1960), pp. 36-37.

[15] Ibid., p. 37.

[16] Ibid.

Commander Boney does not present data in his study to support either his statement or his recommendation.

Summary. The criteria developed for evaluating industrial funds, in general, are not necessarily appropriate for evaluating MSTS. MSTS is a special type of activity. It provides services, a large portion of which is contracted for from commercial sources outside the government, for other government agencies. The primary purpose for its existence is to reduce the government's cost of transporting personnel and cargo by eliminating duplication of services. A buyer-seller relationship cannot exist in the true sense unless there is competition and an inherent duplication of services. There cannot be a monopoly and free choice of supply simultaneously. MSTS is not a consumer of resources. It cannot sponsor shipping on its own, but is an intermediary in the procurement of shipping space for those services that sponsor government shipping. For these reasons, new criteria must be developed and the financial operations of MSTS evaluated in light of these criteria.

CHAPTER II

ACCOUNTING THEORY AND APPLICATION TO GOVERNMENT

An understanding of the theories and concepts underlying the Navy Industrial Fund is basic to an analysis of the financial operations of the Military Sea Transportation Service.

I. ACCOUNTING THEORY

Proprietary Theory. Under this theory the proprietor is the center of all accounting. The firm is viewed as merely an extension of the personal finances of the proprietor. He is responsible legally and financially for the actions of the firm. All assets and liabilities are the property of the owner, and arise as the result of his decisions and actions.[1]

Proprietary theory is the basis for two important accounting concepts. Underlying proprietary theory is the concept of owner's net worth. This concept provides the foundation for the familiar balance sheet equation, Assets = Liabilities + Net Worth. In order to retain the equality

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[1] The Proprietary and entity theory sections of this study are the result of the gathering of information from the many accounting texts read. Among the most influential are The Handbook of Modern Accounting Theory, and The Fund Theory of Accounting and Implications for Financial Reports. See Bibliography.

of the statement, any change in the values of one side of the equation must result in a corresponding change of like amount in the values on the same or opposite side. This duality is the basis for a second important accounting concept, the concept of the double entry. The concept of double entry in asset, liability, and proprietary accounts is extended to include revenue and expense accounts. The same rule of duality applies, and any change in either the revenue or expense accounts without a like change in the other will result in a change in the net worth of the proprietor. The change in proprietorship is a measure of positive or negative income to the owner.

Entity Theory. The entity theory evolved out of necessity from the proprietary theory with the coming of the corporate form of organization. The proprietary theory was no longer able to meet the needs of the new concept of corporations. Corporations differ from proprietorships in the concept of personality. Corporations are not viewed as mere financial extensions of their owners but as separate legal entities responsible for their own actions and debts. A second difference between proprietorships and corporations is the manner in which the firm is managed. Proprietorships are almost always managed by their owners while corporations generally are managed by professional managers who act for the many owners (stockholders) of the firm. A third notion

that separates the two forms of organization is the idea of limited liability of corporation owners. Generally speaking owners of corporations are liable only to the extent of their investments in the firm while proprietors are liable for the firm's debts to the full extent of their personal wealth.

Under the entity theory, assets and liabilities are viewed as the property and responsibility of the corporate entity. The corporation is responsible to its owners only for the management of the resources they have entrusted to it.

Assets are no longer viewed as the physical existence of property as they are under proprietary theory, but are viewed as the costs applicable to services available for future conversion and delivery to the market. The right side of the balance sheet represents accountabilities to owners and creditors for legal and equitable interests in the corporation. Revenue is not viewed as an accretion of proprietorship but as as acquisition of new assets by completing transactions with customers.

Fund Theory. A fund, in the sense used here, is an accounting unit organized for the accomplishment of a specific, continuing objective, independent of the legal pattern of organization.

Its accounts recognize not only all the asset items

> but also all the equities that pertain to that fund; in addition, there are also present complete classifications of revenues, expenses, and income accounts. These taken together, provide a general trial balance, complete as to the operations covered by the definition of the fund.[2]

The notion of a fund is free from the thinking of personality that is basic to both proprietary and entity theory, and is not concerned with attitudes about valuation. Assets and liabilities are thought of in terms of services. "Assets are economic in nature; they are embodiments of future want satisfaction in the form of service potentials that may be stored against future events."[3] "Equities are viewed . . . as restrictions that apply to assets in the fund, which therefore condition the operations of the fund as dictated by the management."[4]

According to Vatter, there are three basic notions that underlie the fund theory of accounting. They are the following:

> A fund was a means of limiting the area of attention by defining the group of activities or operations with which any one set of accounting records is concerned. Secondly, it was pointed out that the basic requirements of terminology--operational content and homogeneity of substance--required the definition of assets in terms of economic service . . . . Equities are restrictions that apply to the assets that are present in a given fund; equities are not legal liabilities, equitable claims, or

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[2] William J. Vatter, The Fund Theory of Accounting and Its Implications for Financial Reports (Chicago: The University of Chicago Press, 1949), p. 12.

[3] Ibid., p. 17. [4] Ibid., p. 19.

ownership rights.[5]

Services are put into a fund for a specific purpose, to be directed toward the objectives specified in the purpose of the fund. Expense is the draining off of services to the designated objectives of the fund. Revenues are additions of new assets to the fund differing from other asset acquisitions in that they are completely free of equity restrictions other than the residual equity of the fund itself.

For the purposes of government, The National Committee on Municipal Accounting has defined a fund as follows:

> A sum of money or other resources (gross or net) set aside for the purpose of carrying on specific activities or attaining certain objectives in accordance with special regulations, restrictions, or limitations, and constituting an independent fiscal and accounting entity.[6]

The balance sheets of government funds contain a complete accounting of the fund's assets, liabilities, and surpluses. There is no notion of equity in governmental accounting. Assets include, in the case of Working Capital Funds, fixed assets and consumables. Depreciation should not be taken unless cash in available for replacement.

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[5] Ibid., p. 22.

[6] Municipal Accounting Statements (Chicago: National Committee on Municipal Accounting, 1940), p. 1. Quoted by William J. Vatter, Theory of Accounting and Its Implications for Financial Reports (Chicago: University of Chicago Press, 1949), p. 40.

Revenues are considered additions to assets which neither increase any liability nor represent the recovery of an expenditure, and the cancellation of liabilities without a corresponding increase in other liabilities or a decrease in assets. Vatter summarized the general uses of fund accounting, and the essential differences between the governmental system and fund accounting as practiced by commercial and industrial activities as follows:

1. The fund, not some person connected with it, is viewed as an entity.

2. Valuation, so far as fund accounting is concerned, is a minor issue; the absence of income emphasis is largely responsible for this, but the impersonalness of the entity notion obviously contributes to the point of view.

3. Equities, or whatever the right hand balance sheet items are called, are viewed as restrictions upon assets, not as legal liabilities; this is true not only as to surplus but also with respect to appropriations and commitments.

4. The segregation of long-term from short-term items is maintained in somewhat more definite ways when fund accounting is employed. The funding of capital assets, long-term investments, and the like is common practice in institutional practice.

5. Fund accounting for institutions and governmental agencies embraces certain procedures in reporting operating data, and there are some differences between financial and institutional concepts of revenue and expense. These differences, however, are largely matters of valuation or of the degree which the accrual basis of accounting is followed.

6. One of the distinctive features of fund accounting is the absence of emphasis upon "net income" and related notions of "profit", "operating margins",

and the like.[7]

II. APPLICATIONS TO GOVERNMENT

The Navy Industrial Fund. The National Security Act of 1947, as amended, authorizes the Secretary of Defense to establish working capital funds within the Department of Defense. These funds are to provide working capital for those commercial and industrial type activities that provide common services within the Department.[8] The Navy Industrial Fund is established as a consolidated working capital fund.

Essentially the Industrial Fund is a buyer-seller device designed to pattern the operations of government commercial-industrial activities after those of private enterprise and to introduce like incentives to efficient performance through buyer-seller relationships.[9]

The working capital fund is initially capitalized with a pre-determined amount of cash equal to that necessary for operations until such time as the fund can become self-contained. It then sells its output to service buyers, ideally at cost, and through reimbursement from users sustains its operations without further appropriations of

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[7] Vatter, op. cit., p. 43.

[8] Appendix A contains a statement of the specific purposes and objectives of the Navy Industrial Fund.

[9] Lyon, op. cit., p. 22.

operating money.

Secretary of Defense Project 121 identifies the management objectives of the buyer-seller relationships to be:

a. more responsive performance to the needs of the buyer activities when they otherwise would be unable to negotiate and handicapped in ordering the specific work or services to be furnished, by the fact that they are not funded and able to pay for it. This would require more effective programming, and budgeting for the specific work or services required, and improved flexibility in making program changes.

b. greater flexibility in varying the work force of an industrial-type or commercial-type activity directly responsive to work loads imposed. This can result in lower unit costs of production. Under the budgetary relationship the work force tends to stabilize without changes corresponding to variations in the workload, either up or down.

c. achievement of lower unit costs of production as a result of the buyer's position of critic and the use of predetermined fixed prices established on a quasi-contractual basis to the greatest extent feasible.

d. facilitate increased cross-servicing, with more economical use of facilities and avoidance of unnecessary duplication of facilities within the Department of Defense.[9]

The Military Sea Transportation Service. The Military Sea Transportation Service was established in 1949 as the result of the unification of the Army Transportation Service and the Naval Transportation Service. MSTS provides ocean-going transportation for personnel, cargo and mail for all agencies of the Department of Defense and for other

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[10] Stone, op. cit., pp. 16-17.

agencies and individuals authorized by the Secretary of the Navy. In order to provide these services, MSTS maintains and operates a nucleus fleet, and as sole agent, procures commercial shipping space sufficient to meet the needs of the government agencies it serves.

The Military Sea Transportation Service was chartered under the Navy Industrial Fund in 1951 after one year of operation under the Navy Management Fund. Its operations are financed from revenues generated through charges made to users of its services.

Determining tariffs. The costs of operations incurred by MSTS are recovered through tariffs charged to customers. Ideally this process provides ocean transportation services to users at cost with no resultant profit or loss to MSTS. These tariffs are based on the customers' anticipated volume and the MSTS budget for the next fiscal year.

In about August of each year, the users of MSTS services provide MSTS with an estimate of their needs for the coming fiscal year. MSTS computes an estimated cost for the services anticipated and notifies the users of their approximate charges. In February the customers provide MSTS with a more refined estimate of their anticipated requirements for the next fiscal year. On the basis of these revised figures, MSTS determines the type of shipping necessary to

meet the requirements and prepares the Operating Force Plan. This plan establishes the portion of cargo, passengers, and petroleum products to be moved by controlled and commercial shipping, and the number and types of controlled ships to be operated. The law prohibits MSTS from moving less than 50% of government owned or financed dry cargos and petroleum in privately owned U. S. Flagships, as long as they are available at fair and reasonable rates. This must be taken into consideration when preparing the Operating Force Plan.

Cost estimates are derived from the Operating Force Plan. The MSTS Charter limits the items that may be financed by MSTS. Such items as charter hire, maintenance, and civilian salaries are properly charged as costs, while military pay and allowances, new construction, and depreciation on fixed assets are prohibited.[11] The costs of all shipping prescribed in the Operating Force Plan and MSTS overhead are computed to determine the total costs that must be recovered through tariffs.

The MSTS consolidated budget is prepared and submitted to the Navy Comptroller and the Department of Defense Comptroller for review and approval in sufficient time to have it acted upon before 1 July. When the budget is approved, tariffs are established that will recover the

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[11] For a more comprehensive detailing of allowable and prohibited costs, see the MSTS Charter in Appendix B.

costs of operations.

The rates determined are fixed to the users irrespective of the costs of the shipping used. Any profit and loss generated by annual operations will be charged to capital as long as these charges are within reasonable levels. If these levels are exceeded, MSTS takes corrective action, usually in the form of tariff or billing adjustments.

In addition to the normal point-to-point transportation operations, MSTS participates in special projects. These project operations currently account for some $30,000,000 in income and expenses annually. Most of these ships are involved in survey work and special projects for the Pacific Missile Range. Their services are billed at cost, and usually no profit or loss is generated.

CHAPTER III

THE ANALYSIS

The primary objective of the industrial fund is to reduce the cost of the product or service being produced. Industrial funds pattern their operations after private enterprise and attempt to introduce like incentives into the operations of the fund through the introduction of a "buyer-seller" relationship. Specifically the funds are designed to:

1. Pay all costs of producing the product or service.[1]

2. Improve cost control through flexible budgeting, financing, and accounting for costs.

3. Obtain management advantages, incentives for efficiency and economy, and lower costs attributed to the "buyer" acting as critic of the "seller".

4. Support the performance budget by facilitating budgeting and reporting for the costs of end products thus underlying the cost consequences of decision making, including the choice between alternatives.[2]

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[1] Lyon, loc. cit.

[2] Department of Defense, Regulations Governing Industrial Fund Operations (Department of Defense Directive 7410.4 of 17 July 1958), Washington, 1958, pp. 2-3.

5. Control costs by varying the labor force and inventory with the work load.

6. Establish predetermined end product prices, thus establishing cost standards.

7. Facilitate cross servicing and avoidance of unnecessary duplication.[3]

Buyer-seller relationships

A buyer-seller relationship is basic if the industrial fund is to achieve its objectives. A true buyer-seller relationship exists when the producer can seek alternate sources of work and the customer has some freedom of choice of supplier.[4]

The MSTS is a provider of ocean-going transportation services. It can produce such services itself or it can contract with outside shippers for the services required. Its flexibility to provide services is limited by the number of government owned ships available, the length of time required to activate and deactivate nucleus ships, the availability of commercial shipping space, and the Cargo Preference Act.[5]

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[3] Stone, *loc. cit.*

[4] Lyon, *op. cit.*, p. 25.

[5] The Cargo Preference Act (50/50 Law) requires that not less than 50% of government-owned or financed cargos of dry cargo and petroleum products be transported in privately

MSTS can generally seek the best and most economical way of accomplishing its work by selecting the transportation source best suited for the job.

Customers wishing to transport personnel or goods may choose between ocean or air transportation. In each case they must deal only with the authorized managers. In the case of ocean transportation the manager is MSTS. Air transportation is managed by the Military Air Transportation Service. There is little choice between modes of transportation for most cargos. Heavy, bulky cargos can be transported economically only by ship. The shipper must utilize MSTS or pay prohibitive transportation charges to have his goods transported by MATS.

In a sense, however, the customer does have a wider choice of supplier than merely choosing between MSTS and MATS. MSTS, as manager, acts as an agent for each of the user services. As an agent, it is responsible for providing ocean transportation to its customers at the lowest cost. Based on the customer's projected lift requirements, MSTS schedules transportation services consistent with the law, current market, and the route that best meets the user's needs. In essence, MSTS acts for the customer in selecting a source of supply and at the same time encourages

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owned U. S. flagships, to the extent that these are made available at fair and reasonable rates.

competition among the sources of transportation service. In this sense, a true buyer-seller relationship exists between MSTS and its customer services.

The buyer-seller relationship between MSTS and its customers is assisted by the monthly Shipper Service Conferences conducted by MSTS. These conferences are attended by representatives of the shipper services and the offices of the Secretaries of Defense and Navy. Participants in the conference may question any phase of MSTS operations and offer constructive criticisms pertinent to operating and fiscal problem areas.

MSTS Accounting

One of the purposes of industrial funding is to make governmental agencies more business-like. It is hoped that introduction of the buyer-seller relationship will make all the tools of modern management available to the fund managers. The strongest tools the manager hopes for are those financial advantages gained from a modern, effective accounting system.

Expenses. The MSTS system is essentially a direct cost system. Its books contain direct expense accounts for the labor costs of civilian marine employees, travel for both military and marine employees, subsistence of passengers, fuels, tolls, pilotage, damage claims, ship's equipage, maintenance, activation and inactivation of ships, and

charter and ship contract expenses. The overhead account is made up of indirect expenses and consists of all civilian employees' (exclusive of marine) labor costs, indoctrination and training expenses, travel expenses for all personnel ashore, occupancy of premises, rent of equipment, office expenses for consumables, transportation and handling of MSTS owned materials and supplies ashore, communications, public relations, automotive and water transportation operating expenses, office equipment and maintenance, medical expenses for civilian personnel, cash in lieu of quarters, and other overhead.

Variable costing. Such a system of accounting is a direct costing, or more appropriately, variable costing system. Variable costing is basically a device to permit the segregation of fixed and variable cost components.[6] Those costs that vary directly with volume are classified as variable, while those that do not are classed as period costs. Period costs are associated with fixed factors kept in readiness regardless of the actual volume of business and are independent of short-run volume changes.

Some costs are readily definable as variable or period, but many are semi-variable in nature. By careful

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[6] Gordon Shillinglaw, Cost Accounting: Analysis and Control (Homewood: Richard D. Irwin, Inc., 1962) p. 621.

analysis these costs can be broken down into their variable and period components.

Variable costing provides for the charging of only the variable costs to the products of the firm while holding the period costs separate. This approach allows full attention to be devoted to the effect which variable costs have on the profit and loss statement and supplementary operations reports. Variable costing provides information about cost-volume-profit relationships in a form more readily understandable by management. It includes flexible budgeting, break-even analysis, and marginal income analysis.

Variable costing brings out costs that can be changed by current operating decisions. It readily facilitates break-even analysis and points out the effect that management's long-range policy decisions have on fixed costs.[7] It shows how much each product or service contributes to fixed costs and profits. It presents accounting and financial reports in the form needed for pricing policy formulation, product mix determination, and other decision making.

An analysis of the MSTS accounts quickly reveals that the bulk of MSTS expenses fall in the category of variable costs, and the remainder, comprising the overhead, are semi-variable costs. Figure 1 compares the overhead expense for

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[7] Break-even analysis involves determining the point where revenues equal total expenses. At the break-even point there is neither profit nor loss.

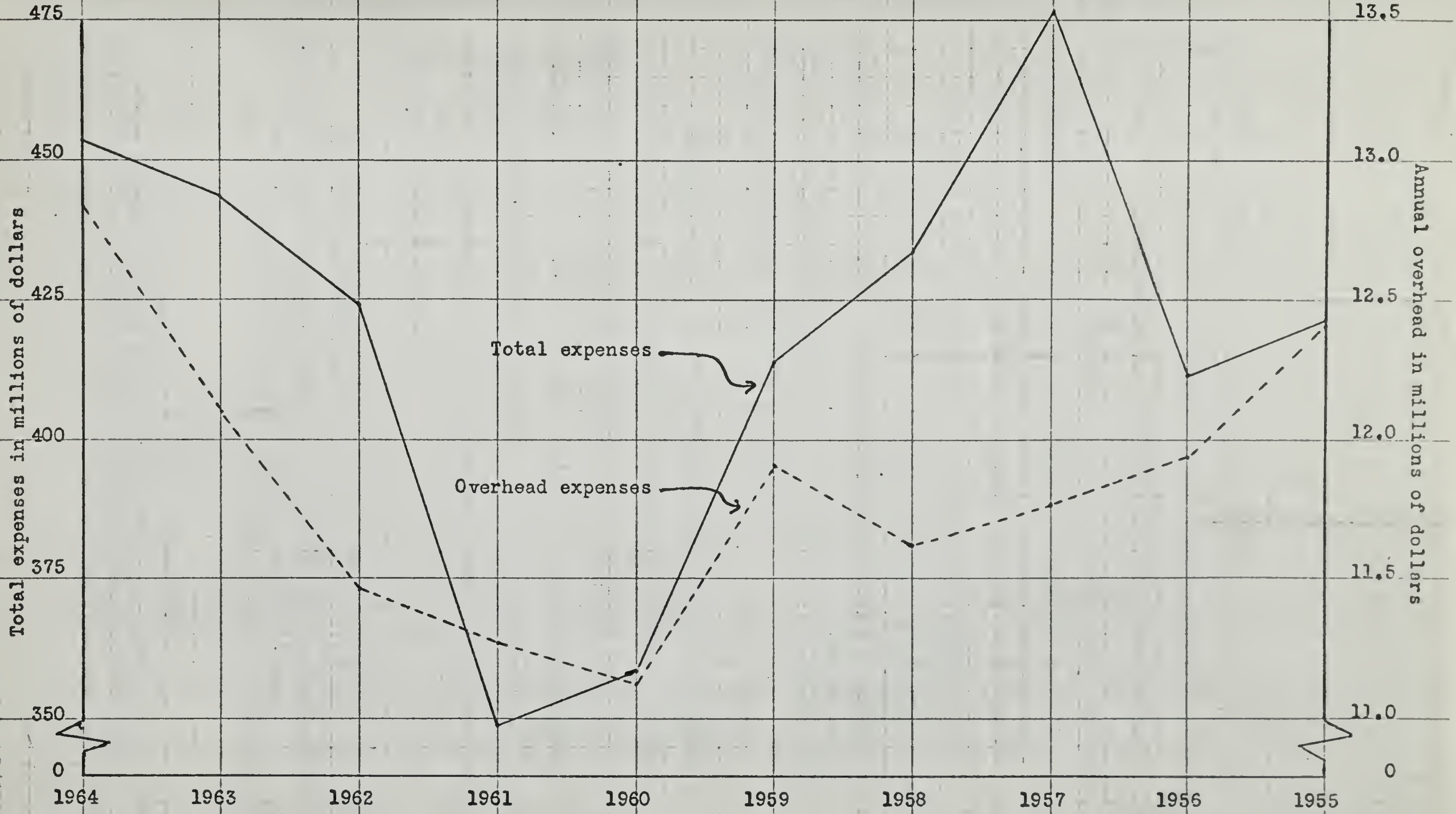

FIGURE 1

COMPARISON OF TOTAL OVERHEAD EXPENSES
WITH TOTAL ANNUAL EXPENSES

the past ten years with total MSTS expenses for the same period.[8] It can be seen that overhead expenses are responsive to the total expenses of MSTS; this is especially true since 1957. Overhead expenses are not directly variable with volume but are semi-variable. It should be noted, however, that the overhead expenses appear to have become increasingly more responsive to volume in recent years.

Those truly fixed costs of MSTS are excluded, except on statistical basis, from the MSTS accounting system and are not reflected in MSTS costs; therefore, period costs are not considered in MSTS pricing.

Budgets. The objectives of the industrial fund include improved cost control through a flexible budget. Variable costing provides MSTS with a budget that is flexible to the needs of the system. The MSTS budget is compiled and approved annually. It is, however, so flexible that it is referred to as a planning budget and is updated once every three months.

Decision making. A second related objective is to support the performance budget by facilitating budgeting and reporting for the costs of end products, thus pointing out

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[8] All data presented in this report was compiled from the MSTS Financial and Statistical Report, part I and part II for the fiscal years 1955 through 1964 and the MSTS Financial Statement for the fiscal years 1961 through 1964.

the cost consequences of decision making. Curently less than 3% of MSTS total expenses are classified as semi-variable. The balance, in excess of $400,000,000 annually, is directly accounted for by carrier and type. The cost consequences of decisions are readily apparent to the decision makers within MSTS.

Break-even analysis. Break-even analysis, essential to the objective of non-profit operations, is easily provided for under the current cost system. Tariffs may be determined from the break-even analysis and standard prices established as cost standards for MSTS. Tariffs can be easily revised, based on up-to-date break-even analysis reflecting current incomes and expenses.

The cost system used by MSTS is currently not a true variable cost system. As pointed out, there is a small percentage of costs still classed as semi-variable with no breakdown into their period and variable portions. It is an extremely effective management tool that provides cost information on which to base decisions and selection among alternatives. The system used points out trouble spots and calls attention to areas needing corrective action.

Costs of services

Industrial funds operate to pay all the costs of producing a service or a product and to provide this service or

product at the lowest price.[9] The National Committee on Governmental Accounting has recommended that fixed assets should be carried in the accounts of working capital funds and that depreciation should be recognized for unit cost purposes. The Committee has also stated that depreciation on general fixed assets should not be reflected in the accounts unless cash for replacements can legally be set aside.[10] MSTS is currently prohibited by law from financing fixed assets and does not include depreciation as a cost of operation. It is further prohibited from charging the costs of military pay and allowances as costs of operating the system. Both costs are true costs of operating the MSTS. The arguments for and against the exclusion of these costs are lengthy and varied. It is not the purpose of this paper to comment on the policies of authority outside of the MSTS organization. It must be pointed out, however, that the costs of military personnel are direct and current costs of operations. They are appropriated expenses of the armed forces and the funding of a portion of the MSTS labor force in this manner is contrary to the objectives of Secretary of Defense Project 121. By excluding Military pay and allowances and depreciation from the cost of operations, the

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[9] Lyon, op. cit., p. 22.

[10] Appendix C contains a complete listing of the NCGA recommended principles and procedures for municipal accounting.

industrial fund does not pay all the costs of producing services and fails to meet this objective of industrial funding.

Operations at cost. Table I is a comparison of the annual incomes, expenses, and profits or losses of MSTS over the past ten fiscal years. These figures include only those actual expenses of MSTS and are exclusive of depreciation on fixed assets and military pay and allowances. Profits or losses have not exceeded four per cent of the annual income in any of the past ten years. The total profit for the entire period is slightly greater than $10,000,000 on $4,200,000,000 of operations. This is a variance of about two-tenths of one per cent.

The demand for transportation varies by the world situation. By the same token, the price of commercial shipping varies by the demand for and supply of space available and the route to be serviced. It is often difficult for shippers to accurately forecast their future lift requirements and for MSTS to predict the cost of commercial shipping. Tariff rates are set and approved annually; any modification of these tariffs must be approved by the Assistant Secretary of Defense (Comptroller). This partially retards MSTS's inherent flexibility and causes tariff changes to lag expense changes. When the uncertainties involved in budgeting are considered, and the costs of fixed

TABLE I

MILITARY SEA TRANSPORTATION SERVICE INCOMES EXPENSES, AND PROFITS FOR FISCAL YEARS 1955 THROUGH 1964

Year	Total income	Total expenses	Profit (Loss)
1964	439,562,066	454,851,948	(15,289,882)
1963	445,496,048	443,950,237	1,545,811
1962	429,278,312	424,812,232	4,466,080
1961	361,193,466	349,705,225	11,488,241
1960	355,783,376	358,635,796	(2,852,420)
1959	423,011,418	414,607,691	8,403,727
1958	440,476,816	434,005,000	6,471,816
1957	471,601,478	477,211,256	(5,609,678)
1956	412,419,581	412,683,524	(263,943)
1955	424,718,970	422,946,377	1,772,593

assets and military personnel are disregarded, it must be concluded that MSTS has met the objective of providing services at cost.

Nucleus ships and employees afloat. The objectives of industrial funds include cost control by varying the labor force and inventories to meet the work load. Inventories as such are a minor item in the case of MSTS and are not considered as indicative of the flexibility of the MSTS. The civilian labor force is an indicative measure. By the same token it must be borne in mind that any significant increase in the marine labor force means an increase in the government owned ships in service and vice versa. Figure 2 is a graphic presentation comparing the annual dollar reveues from MSTS nucleus ships with the number of civilian employees afloat and USNS ships in service. The reader should keep in mind that often MSTS nucleus ships are assigned to the unprofitable runs. In the case of MSTS manned tankers, the ships concerned are generally small AOG types requiring crews almost as large as larger point-to-point ships.

The number of MSTS nucleus ships in service has followed the pattern of incomes generated from their services since 1958, though the movement has not been proportional. It can be seen that in all cases since 1958 when incomes have gone down, so have the number of ships in service and

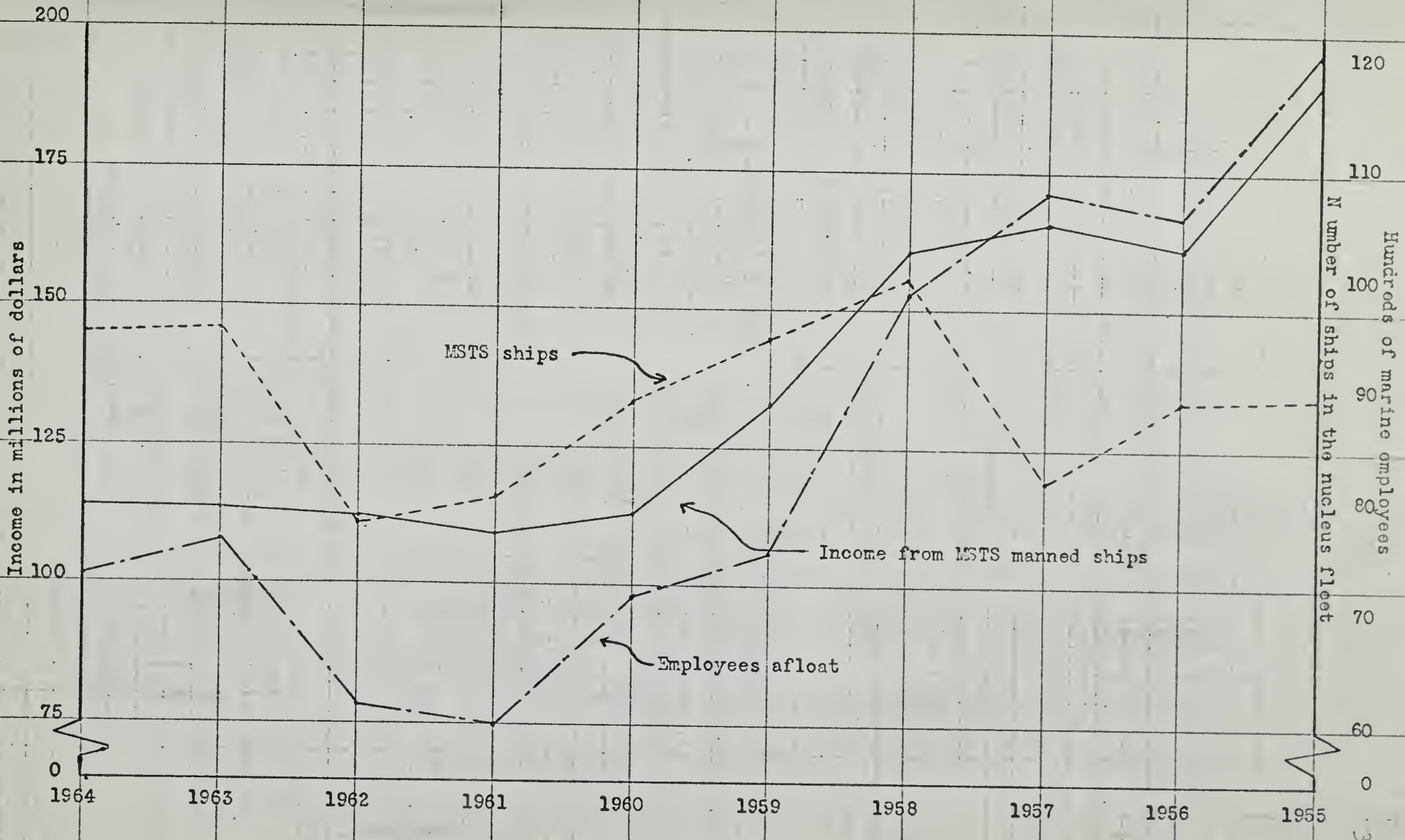

FIGURE 2

COMPARISON OF TOTAL INCOME FROM MSTS MANNED NUCLEUS SHIPS WITH THE NUMBER OF NUCLEUS SHIPS AND MARINE EMPLOYEES

vice versa.

The number of employees afloat and the total MSTS nucleus ship incomes are much more closely related than is the relationship of the number of ships to income. In the case of employees, the numbers have varied directly, though not proportionately, with income for the past ten years.

The number of employees afloat has only varied directly with the number of ships in service since 1958. Prior to that, there was no predictable relationship between these two resources.

Employees ashore. Figure 3 is a comparison of the total MSTS expenses and the number of employees ashore. Total expenses are used as a measure by which cargo, passengers, and petroleum can be commonly measured. No conclusions can be drawn as to the predictability of the relationships that may or may not exist between the MSTS work load, as measured by total expenses, and the number of personnel employed by the shore establishment. It would appear that the number of civilian employees ashore is primarily dependent upon factors other than the volume of shipping. The nature of the work done and the inflexibility in varying the work force under civil service is undoubtedly responsible for a great portion of the absence of a direct relationship between shipping volume and the number of employees ashore.

In 1956, both total expenses and the number of

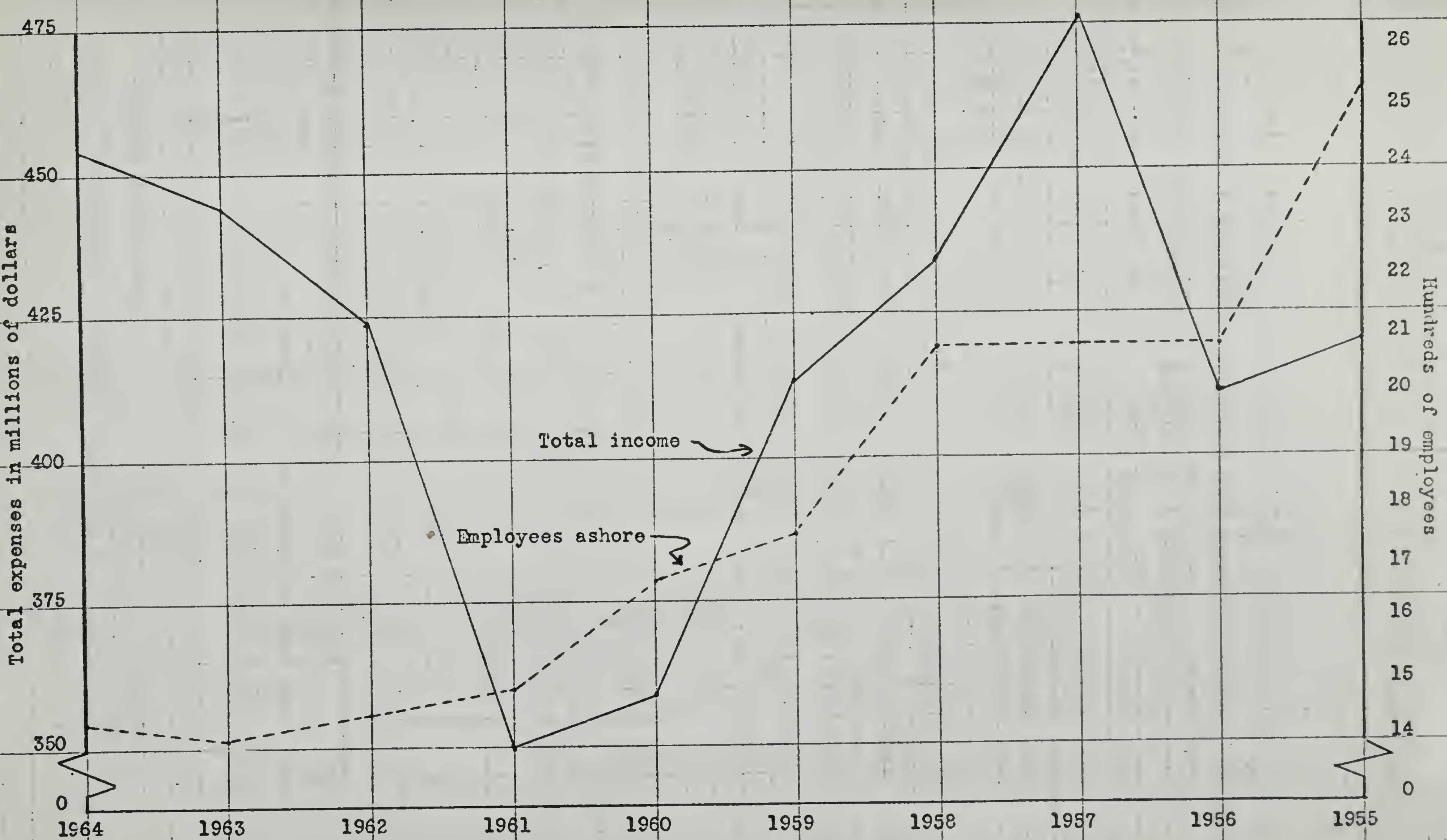

FIGURE 3

COMPARISON OF THE TOTAL EXPENSES OF MSTS WITH THE NUMBER OF CIVILIAN EMPLOYEES ASHORE

employees declined, while during 1957 and 1958, the number of employees remained constant and expenses went up and down. For the next three years, both went down, but not proportionately. From 1961 to 1963, the number of employees continued the downward trend, but the total expenses went up. During 1963, expenses and the number of employees both rose slightly.

Approximately 83% of the personnel employed by MSTS are marine employees. This portion of the work force is variable with the work load imposed upon the nucleus fleet and historically has varied directly with the volume of business done. The remaining 17% are generally independent of the work load.

The remainder of this portion of the study deals with costs of operations. These costs are expressed per 1,000 metric ton miles for cargo, 1,000 passenger miles for passengers, and 1,000 long ton miles for petroleum.

Cost of transportation

Figure 4 is a comparison of the costs of transporting cargo, passengers, and petroleum over the past 10 fiscal years. These are weighted costs based on the costs and portion moved by each type of carrier utilized. Since 1958 the costs of transporting passengers and petroleum have been decreasing while the costs of transporting cargo have remained virtually constant. During this same period of

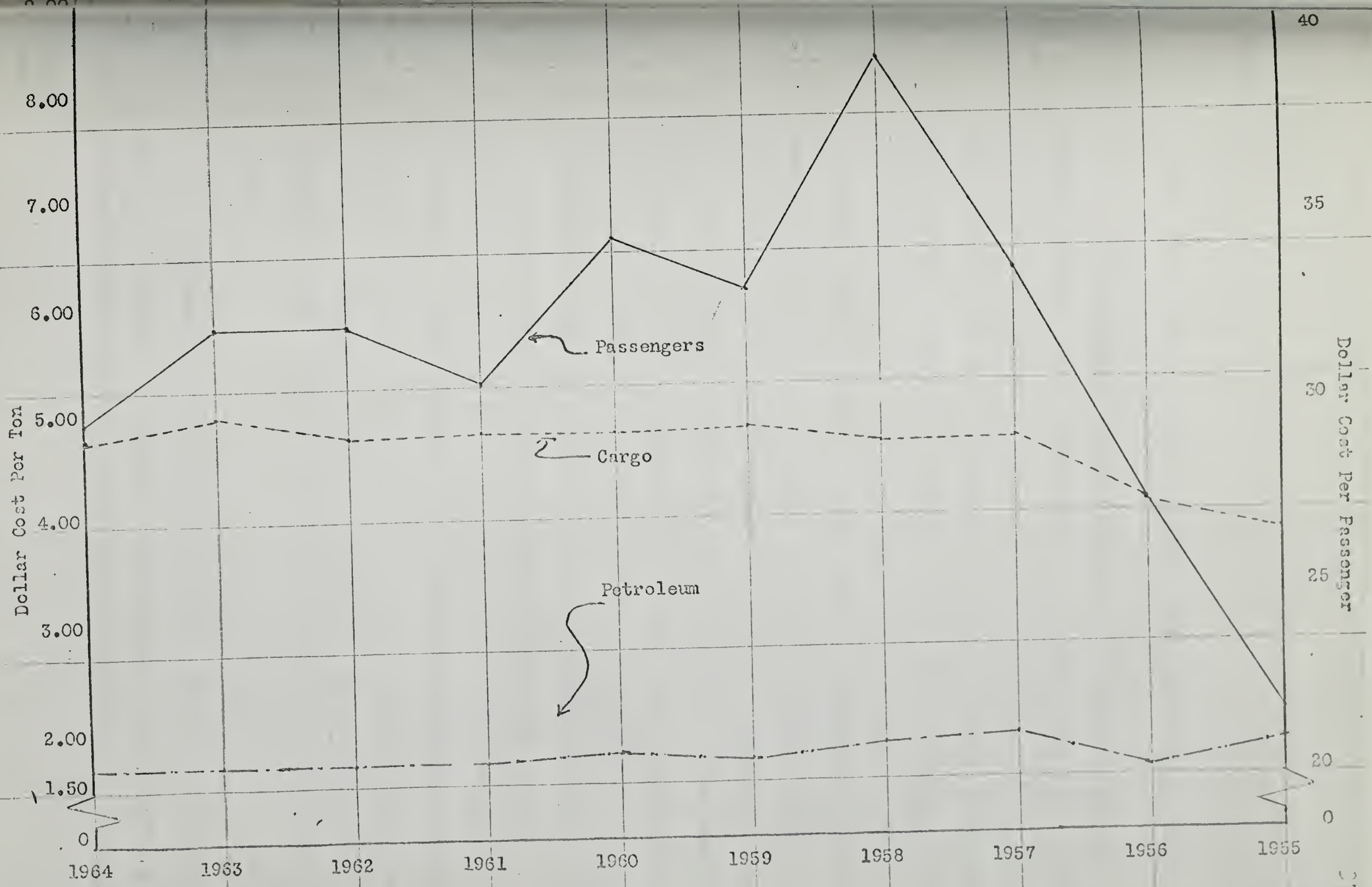

FIGURE 4

COMPARISON OF THE COSTS OF TRANSPORTING PASSENGERS PER 1000 PASSENGER MILES
WITH THE COSTS OF TRANSPORTING CARGO PER 1000 M/T MILES AND
THE COSTS OF TRANSPORTING PETROLEUM PER 1000 L/T MILES

time, the general level of prices have been increasing.

Cargo transportation costs. The total costs of transporting cargos, passengers, and petroleum are a product of the most utilized means of transportation. The costs of all carriers do not necessarily follow the same trends as the average. Figure 5 compares the costs of transporting all cargo with the costs of transporting cargo via MSTS nucleus cargo carriers and the costs of transportation under shipping contract. It should be noted that the dollar costs of operating MSTS ships cannot be directly compared to the costs of commercial ships due to the nature of the accounting systems and the flexibility of commercial rates with demand. However, it is felt that the trends of costs are significant and that comparisons can be made on this basis.

The costs of operating MSTS nucleus ships have generally followed the average costs of transporting cargos and have the same general cost pattern as the costs of shipping contracts. About 60% of the total cargo transported is moved by commercial shipping contract, about 20% by MSTS nucleus ships, and the remainder by various commercial means.

Passenger transportation costs. Figure 6 compares the total costs to transport all classes of passengers 1,000 miles with the cost to transport cabin and troop passengers

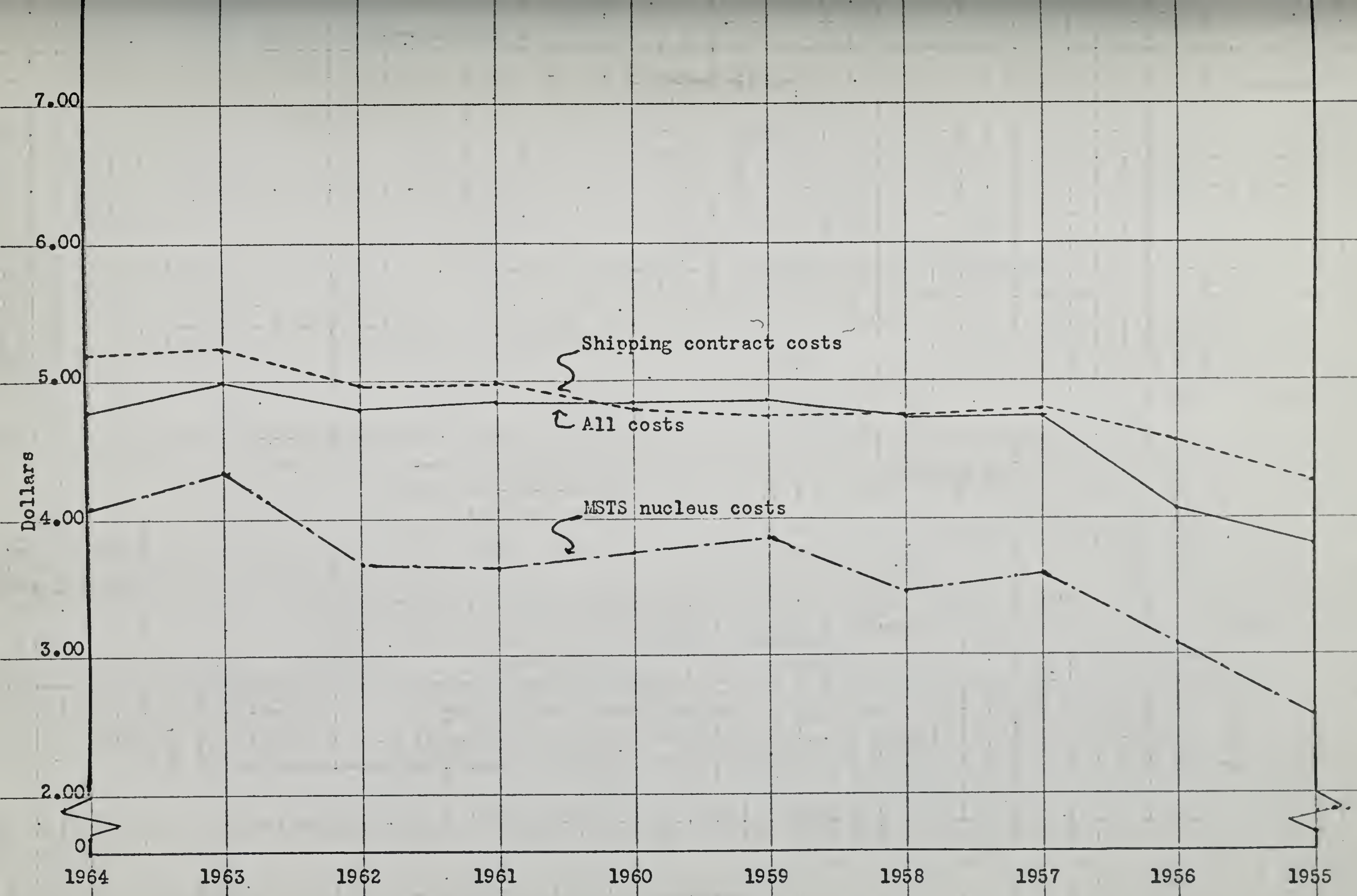

FIGURE 5

COMPARISON OF THE AVERAGE COST OF TRANSPORTING CARGO PER 1000 M/T MILES
WITH THE COST OF TRANSPORTING CARGO PER 1000 M/T BY
SHIPPING CONTRACT AND MSTS NUCLEUS FLEET

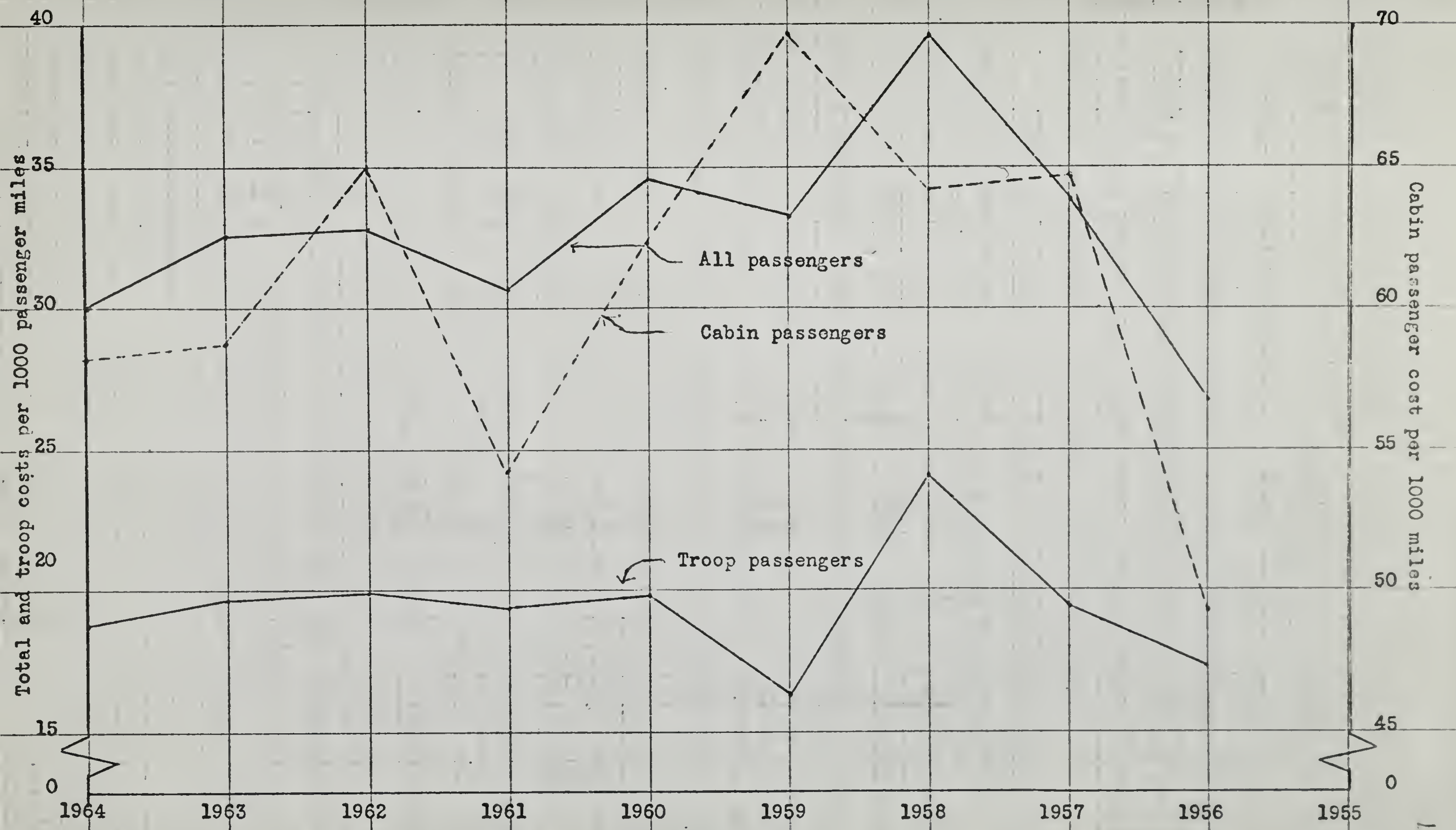

FIGURE 6

COMPARISON OF THE AVERAGE COST OF TRANSPORTING PASSENGERS PER 1000 MILES
WITH THE AVERAGE COST OF TRANSPORTING CABIN AND TROOP
PASSENGERS PER 1000 MILES

1,000 miles. The costs of transporting all passengers shows a downward trend commencing in 1958. Troop transportation costs follow the same pattern as total passenger costs. All troops are transported on MSTS nucleus ships. The costs of transporting cabin class passengers are much more erratic than the average but show a like downward trend.

Figure 7 breaks the costs of transporting cabin passengers down into the costs of passengers transported by MSTS and the costs of those transported by commercial means. It can be seen that the costs of MSTS transported passengers show a downward trend while the costs of commercial transportation are generally upward. The fact that MSTS has been able to bring down the costs of transporting personnel would seem to stem from the reductions in costs realized from MSTS nucleus ship operations. One consideration that should not be overlooked is the number of commissioned ships carrying passengers for MSTS. The cost of military pay and allowances paid the crews of these ships is not financed by MSTS and the resultant costs of transporting passengers are correspondingly lower. In 1958, six of a total of twenty-nine nucleus ships were commissioned ships while from 1961 through 1964 only three of sixteen ships were commissioned. In addition, all passenger ships in the nucleus fleet have military detachments assigned for the administration and care of passengers.

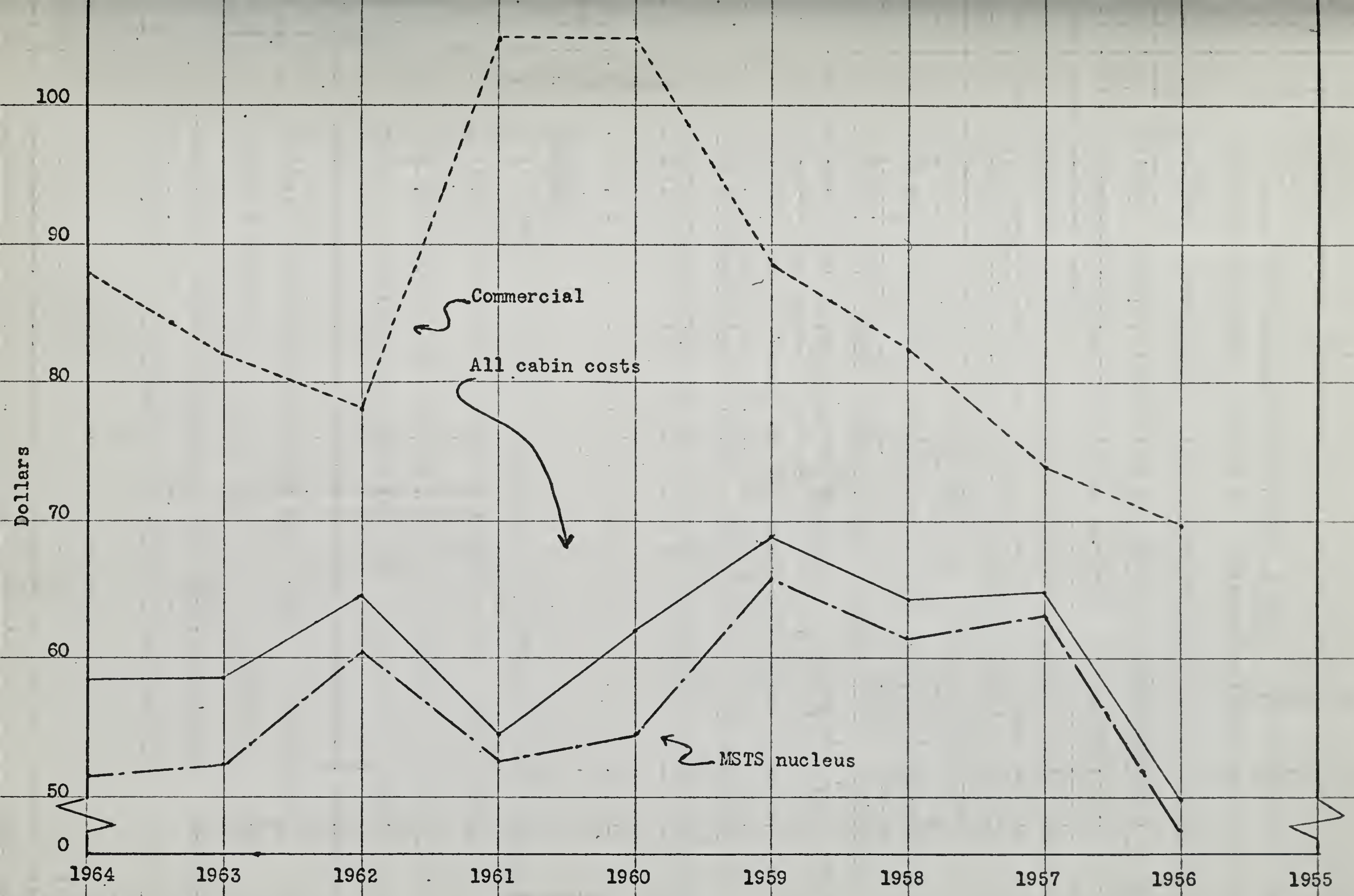

FIGURE 7

COMPARISON OF THE AVERAGE COST OF TRANSPORTING CABIN PASSENGERS PER 1000 MILES
WITH THE COST OF TRANSPORTING CABIN PASSENGERS PER 1000 MILES
BY MSTS NUCLEUS AND COMMERCIAL SHIPS

Petroleum transportation costs. Contractor operated tankers move about 25% of the total petroleum transported and about 88% of all that is transported by the nucleus fleet. Figure 8 compares the costs of MSTS nucleus tankers, contractor operated tankers, and the composite costs of all movements. The costs of contractor operated tankers have almost exactly paralleled the average costs of transporting fuel. The costs of operating the nucleus fleet have been extremely variable showing an upward trend. 1955 reflects a period when many ships of the nucleus fleet were being laid up and costs rose to 18.88 per 1,000 L/T miles. The nucleus fleet is made up of small AOG types operating on short uneconomical routes. The nature of operations of these ships cannot be considered as tending toward operating economies.

Summary

The financial operations of MSTS have been examined in light of the objectives of industrial funds as stated at the opening of the chapter. It was pointed out that the fund as currently constituted does not pay the full cost of MSTS operations, as the law prohibits MSTS from financing military pay and allowances and taking depreciation on fixed assets. MSTS did operate at cost when only the costs authorized were considered. The MSTS accounting system was described as a variable cost system employing the modern

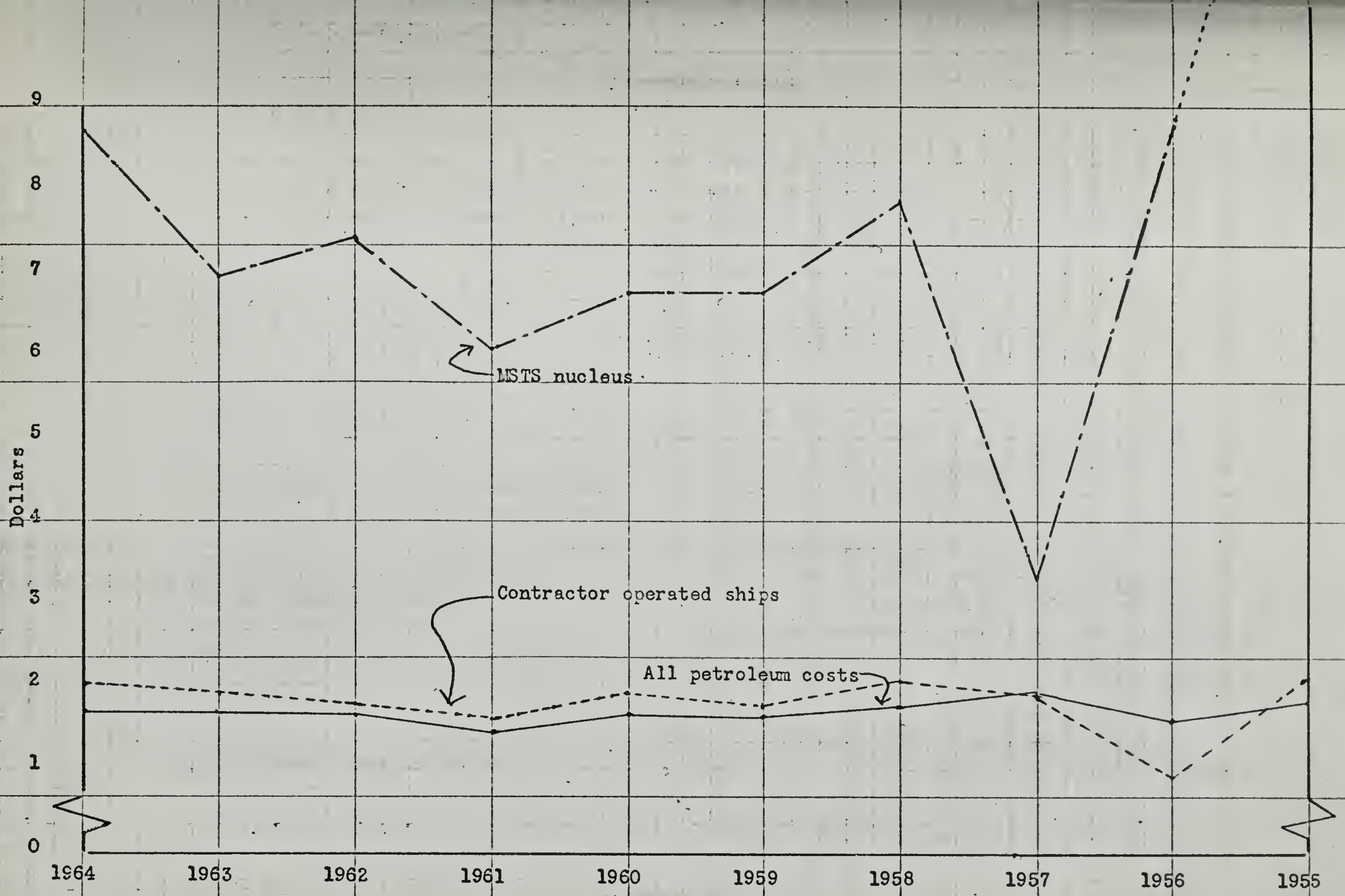

FIGURE 8

COMPARISON OF THE AVERAGE COST OF TRANSPORTING PETROLEUM PER 1000 L/T MILES WITH THE COST OF TRANSPORTING PETROLEUM 1000 L/T MILES BY CONTRACTOR OPERATED TANKER AND MSTS NUCLEUS SHIPS

management tools of variable costing that facilitate flexible budgeting and provide the information necessary to consider the cost consequences of decision making. Data were presented which showed the MSTS marine work force to be flexible to the work load imposed on the nucleus fleet. Further data were presented that showed the ashore work force to be apparently unaffected by changes in the total work load. The tariffs derived from the MSTS budget serve as cost standards for its operations. The ability of industrial fund activities to produce at lower costs was examined through a series of data which showed the downward trend of costs for transporting petroleum and passengers. The cost of transporting cargo has remained constant in the face of generally rising prices.

CHAPTER IV

SUMMARY AND CONCLUSIONS

Summary

Past studies of industrial funds have established the objectives of the funds and the criteria for evaluating them. One author has made specific recommendations for the improvement of MSTS financial operations. It was pointed out that these objectives and evaluation criteria, developed for evaluating industrial funds in general, are not necessarily appropriate for evaluating the Military Sea Transportation Service.

The basic accounting theories pertinent to MSTS financial operations were examined. It was noted that proprietary theory is the basis for the double entry, and for the accounting equation: Assets = Liabilities + Net Worth. Entity theory establishes the corporation as a legal entity responsible for its own actions. The fund theory is the basis for the entire MSTS financial arrangement. It provides a fund of assets from which the activity operates in a self-sustaining manner. The operations generate income which is used to replace those assets consumed.

The Navy Industrial Fund is a consolidated working capital fund from which MSTS is capitalized. MSTS finances its operations by levying tariffs against its customers to recover its operating costs. Ideally these tariffs return

only the costs and generate no profit or loss.

The objectives by which MSTS financial operations can be evaluated were developed. They include: (1) paying all the costs of producing the service, (2) improved cost control, (3) improved management attributed to the buyer being critical of the operations of the seller, (4) reporting of costs by end product, and (5) cost standards in the form of preset tariffs.

Conclusions

MSTS financial operations were analyzed in the light of these objectives and the following conclusions drawn:

1. That MSTS tariffs did not return all the costs of the services it provides. The costs of capital equipment and the pay and allowances of the military personnel assigned to MSTS are not recovered by the tariffs levied. MSTS is prohibited, by law, from financing these costs although they are direct and true costs of operations.

2. That the MSTS accounting system is essentially a variable cost system. As such, it provides MSTS with flexible budgets and financial data in the form necessary for break-even analysis and decision making.

3. That the costs of MSTS operations are controlled by varying the work force and the number of ships in the nucleus fleet with the work load requirements. It was noted that the civilian work force ashore was primarily responsive

to influences other than the work load. This portion of the work force is comparatively small and accounts for a minor portion of the total MSTS expenses.

4. That the costs of transporting passengers and petroleum have shown a downward trend over the past ten years while the costs of transporting cargo have remained relatively constant.

5. That the costs of transporting cargos on MSTS nucleus ships have generally followed the total average costs of transporting cargo.

6. That the costs of transporting passengers have decreased over the past years, primarily due to the reduction in costs in the operations of the MSTS nucleus fleet.

7. That the reduction in costs realized in petroleum transportation results from lower costs in the commercial ship operations rather than the MSTS nucleus fleet.

Recommendations for further study

This study has determined the objectives of the industrial fund as it applies to the financial operations of the MSTS and analyzed its financial operations. When this study began, it had the additional goal of segregating the annual savings resulting from improved internal operations from the total annual savings attributed to MSTS operations under the Navy Industrial Fund. Although there was never any question that operating MSTS under the Navy

Industrial Fund has saved money in the total defense effort, there was a question as to how much stimulus to improved operations the Navy Industrial Fund had provided. Data available provided little, if any, information on which to base a conclusion. As a result, the question remains unanswered.

The answer to this question is worthy of further study. If an accounting or funding system is to be totally effective, it must stimulate economies within the funded activity as well as in the defense effort as a whole. Failure to do so would indeed be a serious shortcoming of the system.

There is a question that occurred during the course of this study. What are the consequences and implications of financing all the true and direct costs of operating MSTS? The costs of capital equipment and military pay and allowances are true costs, and major items of expense to the Government. The answer to this question requires research and study beyond the scope of the current undertaking.

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APPENDIX

APPENDIX A

PURPOSES AND OBJECTIVES OF INDUSTRIAL FUNDS[1]

A. Industrial Funds are designed to:

1. Provide a more effective means for controlling the costs of goods and services required to be produced or furnished by industrial-and commercial-type activities, and a more effective and flexible means for financing, budgeting, and accounting for the costs thereof (however, the establishment of an improved accounting system is not by itself a purpose justifying the installation of an industrial fund);

2. Create and recognize "buyer-seller" relationships between industrial-and commercial-type activities and those activities which budget for and order the end-products or services, in order to provide management advantages and incentives for efficiency and economy;

3. Provide to managers of industrial-and commercial-type activities the financial authority and flexibility required to procure and use manpower, materials and other resources effectively;

4. Encourage more cross-servicing among the military departments and among their operating agencies, with the aim of obtaining more economical use of facilities;

5. Support the performance budgeting concept by facilitating budgeting and reporting for the costs of end-products, and thus underlining the cost consequences of decision making, including choices between alternatives in such terms.

B. Specific objectives, when industrial funds are used, include the following:

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[1] Department of Defense, Regulations Governing Industrial Fund Operations (Department of Defense Directive 7410.4 of 17 July 1958), Washington, 1958.

1. To furnish managers of industrial-and commercial-type activities with modern management tools comparable to those utilized by efficient private enterprises engaged in similar types of activities;

2. To provide an incentive for managers of industrial fund activities to improve cost estimating and cost control through use of cost standards by requiring a contractual relationship between producer and ordering agencies;

3. Require alert, forward-looking financial planning at industrial-and commercial-type activities by making them dependent financially on reimbursements received for goods and services furnished in fulfilling orders from customers;

4. Impel producers of goods and services to control costs in line with workloads actually generated by customers' orders, varying the labor force and inventories accordingly and avoiding the tendency to maintain a labor force and inventories without regard to fluctuations in workload levels, taking into consideration the prescribed wartime capability requirements;

5. To coordinate the financial aspects of detailed estimating and planning for job performance in terms of material requirements and labor operations, production scheduling and control, and procurement and inventory control, with budgeting and cost control;

6. To establish and use realistic cost standards as targets rather than detailed cost limitations;

7. Require ordering agencies to budget, control and account for the cost of all goods and services ordered, rather than allow them to obtain free goods and services; this requirement is designed to instill in the officials of these agencies a greater sense of responsibility and self-restraint in limiting their orders, and balancing the cost of specific goods and services to be ordered against the benefits and advantages of their procurement, especially in the light of alternative or competing demands;

8. To place ordering agencies in the position of

critic of purchase prices (i.e., costs of performing activities) as well as quality and delivery-speed of the goods and services ordered in consideration of relative costs of similar performing activities and outside agencies;

9. Provide meaningful bills to ordering agencies, clearly relating the goods and services furnished by a performing activity to the charges rendered, causing the ordering agencies to assess their procurement practices and specifications in full awareness of the costs involved;

10. Enable ordering agencies to budget and account on an "end-product" basis (the same as when buying from commercial contractors), simplifying budget presentations, budgetary control, and accounting procedures for both producers and ordering agencies;

11. To establish, wherever feasible, predetermined prices (tariff schedules, price lists, fixed-price orders) for goods and services furnished by industrial fund activities, thus setting standard prices on performance and enabling ordering agencies to plan and budget more confidently;

12. To encourage management of ordering agencies to improve program planning and scheduling, in response to producers' efforts to negotiate for orders as far in advance as possible.

APPENDIX B

CHARTER FOR OPERATION OF MILITARY SEA TRANSPORTATION SERVICE UNDER NAVY INDUSTRIAL FUND

I AUTHORITY

Military Sea Transportation Service is authorized to finance its operations beginning 1 July 1951 under the Navy Industrial Fund in accordance with Section 405 of the National Security Act of 1947, as amended, and Department of Defense Regulations dated 13 July 1950 covering the operations of working-capital funds for industrial- and commercial-type establishments. This document constitutes the charter of Military Sea Transportation Service in accordance with the provisions of paragraph 4 of the Regulations.

II DIRECTION AND CONTROL

Military Sea Transportation Service has been established as an activity within the Department of the Navy, pursuant to Secretary of Defense directive dated 2 August 1949. As such it has the status of both a command activity and a procuring activity. As a part of the Operating Forces of the Navy, the Military Sea Transportation Service is responsible through its Commander to the Chief of Naval Operations. As a procuring activity, the Military Sea Transportation Service is responsible through its Commander to the Assistant Secretary of the Navy.

III MISSION

The mission of the Military Sea Transportation Service; pursuant to the aforementioned directive of the Secretary of Defense, is:

(a) To provide under one authority, the control, operation and administration of sea transportation for personnel and cargo of the Department of Defense (excluding that transported by units of the Fleet) and as authorized or directed for other Government agencies of the United States subject to policies and priorities issued by the Joint Chiefs of Staff;

(b) To prepare plans for its employment and expansion in time of national emergency based upon the

policies and directives of the Joint Chiefs of Staff and appropriate agencies of the Department of Defense and to maintain a basic organization capable of expansion to implement such plans;

(c) And to consult with the appropriate agencies of the Department of Defense in coordinating execution of approved emergency plans requiring the services, facilities, and personnel of commercial sea carriers and in negotiating therefor.

IV FUNCTIONS AND RESPONSIBILITIES

Pursuant to the aforementioned directive of the Secretary of Defense, Military Sea Transportation Service is responsible for:

1. The control, operation and administration of government owned vessels assigned, and all other vessels acquired for the purpose of providing a noncombatant carrier service of ocean transportation of personnel and material for the Armed Services, and, as authorized, for all other government agencies of the United States, subject to directives of the Joint Chiefs of Staff and the Chief of Naval Operations.

2. The establishment, control, and administration of organization units ashore, worldwide, necessary for the administration and operation of MSTS. (Existing organizations and facilities of the three Services will be utilized by MSTS as is practicable and necessary and as directed by the Secretary of Defense.)

3. The procurement of vessels outside the MSTS fleet by bareboat, time and voyage charter, and the procurement of passenger and cargo space in commercial shipping as found necessary.

4. The establishment of an adequate system for reporting requirements for sea transportation of passengers and cargo, and for such other operational information as considered by MSTS to be necessary for the efficient employment of MSTS vessels, and for the chartering of commercial vessels and the procurement of passenger and cargo space in commercial vessels.

5. The administration of priorities for sea

transportation of material and personnel of the Armed Services in accordance with the policy established and guidance provided by the Joint Chiefs of Staff.

6. In coordination with pertinent government agencies, the preparation of recommendations for the design, specifications, and equipment of MSTS vessels. In collaboration with pertinent government agencies, the making of studies, analyses and recommendations for the improvement and standardization of sea transport control practices, procedures, reports, forms and coordination of traffic movements.

7. The control and administration of maintenance, repair, and alteration of all government owned vessels assigned to MSTS plus the maintenance and repair of vessels under bareboat charter.

8. The preparation of subsidiary plans for the employment and expansion of MSTS in time of national emergency. These plans will be coordinated with those of the bureaus and offices of the Navy Department, the Shore Establishment and the Operating Forces by the Chief of Naval Operations and integrated with the overall Navy Planning System. In such planning, policies and directives issued by the Joint Chiefs of Staff and the Munitions Board will be used as guidance. The execution of such plans requiring the services, facilities, and personnel of commercial sea carriers, and negotiations therefor is the responsibility of the Commander, MSTS.

9. The development and maintenance, in consonance with applicable policies and procedures, of such cost accounting records and operational statistics as will reflect the degree of efficiency and economy of the operations conducted by MSTS and shows the utilization of funds, manpower and equipment assigned to MSTS. This information will be made available to all interested agencies of the Department of Defense.

10. The determination of the requirements of MSTS with respect to personnel, equipment, material, facilities and services, and advising the Chief of Naval Operations in these matters.

11. The preparation of budgetary and other fiscal

requirements of MSTS as coordinated with participating agencies in accordance with directives issued by the Navy Comptroller.

12. The administrative control of funds received by transfer, by reimbursement or received in payment for services rendered in consonance with policies directed by the Secretary of Defense.

13. The approval of stowage plans and their proper implementation. The Armed Service concerned will have representation with MSTS in the preparation of detailed stowage plans affecting the shipments made by that service. The movement of Armed Services cargo to the side of the vessel is a responsibility of the Department owning the cargo. Stevedoring service will be arranged for by the port command when government port facilities are being utilized. Stevedoring service will be arranged for by the Department owning the cargo when commercial port facilities are used. The responsibility for the implementation and execution of loading and unloading rests with the activity furnishing the stevedoring services. The responsibility of MSTS for cargo begins when the cargo is finally stowed on board and accepted by the commanding officer, and terminates when the cargo is accepted free on board ship at destination.

14. The coordination between the Services and MSTS of the booking of passengers and cargo. The Armed Service concerned will have representation with MSTS in the approval of detailed plans affecting the movement of its personnel and cargo.

15. The control of all passengers on MSTS vessels. By agreement between MSTS and the Armed Service concerned, administrative control may be exercised through Commanders of personnel assigned by the Armed Service concerned. The responsibility of the MSTS begins when the passenger embarks on the vessel and terminates when the passenger disembarks from the vessel.

16. The coordination of MSTS activities with the administration, management and operational control of port facilities. Such harbor tugboats and harbor facilities as are available and are necessary in connection with the operation of vessels will be provided for the use of MSTS through mutual

agreements of all Departments concerned and as local conditions permit.

17. Such other functions and responsibilities as may be assigned.

V. SERVICES AND CUSTOMERS

Military Sea Transportation Service, in harmony with its basic mission is authorized to render ocean transportation services to all agencies of the Department of Defense; to other Governmental Departments and other Governmental agencies or instrumentalities, such as, but not necessarily limited to, MDAP, ECA, CRIK, IRO, when the movement of personnel or materiel is sponsored by one of the agencies of the Department of Defense or is authorized by high authority.

VI BASIS OF CHARGING FOR SERVICES

MSTS is authorized to bill each agency to whom services are rendered at least monthly. During the first quarter of Fiscal Year 1952 the monthly billings may be accomplished on the basis of a summary bill arrived at through an equitable allocation of monthly costs against the lift transported in that period. During this period memorandum billings shall be computed by MSTS based on tariff rates and other factors designed to recover its overall cost of rendering the services on the one hand and to assure equitable charges (to the extent deemed practicable) to all users of the services on the other hand. Such tariff rates shall be determined in accordance with principles set forth in the Industrial Fund Regulations except that no surcharges will be made for statistical costs on services billed to agencies outside the Department of Defense for the time being.

Monthly reports for the months of July and August shall be prepared by MSTS showing a comparison between the billings actually made during each month and the memorandum billing based on tariff rates. Prior to 30 September 1951, a decision will be made by the Assistant Secretary of Defense (Comptroller) with respect to a permanent basis for billing for services rendered.

VII COSTS AUTHORIZED TO BE FINANCED

Military Sea Transportation Service is not authorized to finance definitively under the Navy Industrial Fund, costs of the following:

(a) New construction and conversion of ships;

(b) Pay and allowances of military personnel attached to Military Sea Transportation Service;

(c) Proration of overhead of Bureau or Officer of the Department of the Navy, in connection with services rendered to Military Sea Transportation Service. However, this prohibition does not relate to items of direct expenses incurred specifically for the rendition of such services;

(d) Expenses for official representation (entertainment of foreign officials, etc., incurred in reciprocation);

(e) Military characteristics of ships, such as armament and amphibious gear;

(f) Battle damage repairs on MSTS ships.

Nothing contained herein shall be construed to prohibit Military Sea Transportation Service from financing initially, subject to specific reimbursement, under the Navy Industrial Fund, costs related to the foregoing, when authorized to so do by the Secretary of Defense or the Secretary of the Navy. Such authorization shall be predicated on all of the following conditions:

(a) Emergency conditions, requiring immediate action in the interest of National Defense;

(b) The ability of Military Sea Transportation Service to finance such costs out of its Industrial Fund cash balance, without impairing its liquidation of short-term and long-term commitments incurred or to be incurred pursuant to the performance of its mission, and without requesting an increase in its working capital.

(c) The established ability of the activity, which would normally finance such costs, to reimburse Military Sea Transportation Service from the current year's appropriation or other funds currently available to it, within a reasonable length of time. The determination as to what is a reasonable length of time shall give due consideration to representations of the Military Sea Transportation Service as to the dates on which it will require such reimbursement in part or in entirety to meet its commitments.

IX LONG-TERM CONTRACTS

Military Sea Transportation Service is authorized to enter into contracts including long-term contracts as may be necessary in the best interests of economy and/or National Defense for materials and services provided that the cash requirements to liquidate the contingent liability for undelivered materials or services under such contracts plus other commitments and liabilities will not exceed the total of available cash plus anticipated receipts for the same period.

X COLLECTIONS

Military Sea Transportation Service is authorized to credit the Navy Industrial Fund with collections representing the cost of stores, supplies, materials or equipment furnished and of services rendered or work performed, including applicable administrative expenses, and any other receipts as may be authorized by law.

XI ACCOUNTING SYSTEM

Military Sea Transportation Service shall employ such financial and accounting methods and procedures as will best serve its needs in the effective handling of its transactions and utilization of accounting data as a guide to good management and in rendering such reports on its financial status and the results of its cost of operations as may be prescribed by the Secretary of Defense and Secretary of the Navy from time to time.

In general, its accounting system shall be a double-entry commercial type system, maintained on an accrual basis.

XII WORKING CAPITAL

Working capital to finance the operations of Military Sea Transportation Service will be provided as follows:

(a) An allocation of the Navy Industrial Fund to the project cash account of Military Sea Transportation Service in the amount of $100,000,000.

(b) Military Sea Transportation Service is authorized to capitalize its inventories of materials and supplies, subsistence stores, fuel oil, etc., ashore and afloat, on hand as of the date of commencement of operations under the Navy Industrial Fund, with a concurrent credit to the corpus

of the Fund. Because the quantities carried aboard MSTS ships are essentially only the requirements to complete a voyage and replenishment approximates consumption, no adjustments to the cash allocation requested in (a) above is required.

(c) The annual leave accrued to civilian employees estimated at $5,400,000 at commencement of operations under Navy Industrial Fund shall be recognized initially as a liability in the accounts of Military Sea Transportation Service.

(d) The amount of indemnity self-insurance estimated at $4,000,000 pertaining to Maritime Administration ships time chartered to Military Sea Transportation Service, at commencement of operations shall be recognized initially as a liability in the accounts of Military Sea Transportation Service.

The initial allocation of cash will be adjusted subsequently as authorized by the Assistant Secretary of Defense (Comptroller), to meet justified needs.

XIII EXCEPTION TO REGULATIONS AND INSTRUCTIONS COVERING OPERATION UNDER WORKING-CAPITAL FUNDS FOR INDUSTRIAL- AND COMMERCIAL-TYPE ESTABLISHMENTS (INDUSTRIAL FUNDS), APPROVED 13 JULY 1950

Military Sea Transportation Service is authorized to deviate from the requirements of the Regulations as to:

(a) Paragraphs 5(j) and 7(g) in that acquisitions of ships' equipage and the relatively minor items of furniture and equipment required in its shore activities may be charged to expense.

(b) Paragraph 7(e)(2) in that the amount to be reimbursed for services performed for other Government departments and instrumentalities need not include proration of military pay and allowances, depreciation and other elements of statistical cost as found in Section VI hereof.

/s/W. J. McNEIL
Assistant Secretary of Defense

Washington, D. C. 7 May 1951

APPENDIX C

PRINCIPLES AND PROCEDURES FOR MUNICIPALITY AND RELATED UNIT ACCOUNTING

The National Committee on Governmental Accounting has recommended that the following principles and procedures be employed in accounting for municipalities and related units.[1]

Principles:

1. The accounting system should make it possible (1) to show that legal provisions have been complied with and (2) to reflect the financial condition and the financial operations of the governmental unit.

2. If legal and sound accounting provisions conflict, legal provisions should govern but the finance officer should seek to obtain changes in the law to bring it into harmony with sound principles.

3. The general accounting system should be on a double-entry basis with all transactions summarized in a general ledger supported by subsidiary records where appropriate.

4. Funds should be established consistent with legal provisions and requirements of sound financial administration, but the number of funds should be kept at a minimum to avoid undue inflexibility.

5. The budget document and financial reports should recognize the following types of funds to the extent required: (1) General, (2) Special Revenue, (3) Bond, (4) Special Assessment, (5) Sinking, (6) Working Capital, (7) Trust and Agency, and (8) Utility or Other Enterprise.

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[1] Wilbert E. Karrenback and Harry Simons, Advanced Accounting Comprehensive Volume (Cincinnati: South-Western Publishing Company, 1961) pp. 782-784.

6. A complete balancing group of accounts should be established for each fund, including all of the accounts to set forth financial condition and operations and to reflect compliance with legal provisions.

7. With the exception of Working Capital, Utility or Other Enterprise, or Trust Funds, fixed assets should not be carried in the same fund with current assets but should be set up in a self-balancing group of accounts known as the General Fixed Assets Group of Account; similarly, except in Special Assessment and Utility Funds, long-term liabilities should not be carried in the same fund with current liabilities but should be shown in a separate self-balancing group of accounts known as the General Bonded Debt and Interest Group of Accounts.

8. Fixed assets should be maintained at original cost, or at estimated cost when original cost is not available; in the case of gifts, assets should be maintained at the appraisal value at the time received.

9. Depreciation on general fixed assets should not be reflected in the accounts unless cash for replacements can legally be set aside; however, depreciation may be recognized for unit cost purposes and for memorandum purposes.

10. The accounting system should provide for budgetary control for both revenues and expenditures, and financial statements should include such budgetary information.

11. The accrual basis for revenues and expenditures is recommended to the extent applicable: revenues partially offset by provisions for estimated losses should be recognized when earned even though not received in cash; expenditures should be recognized as soon as liabilities are incurred.

12. Revenues should be classified by fund and source; expenditures should be classified by fund, function, department, activity, character, and by main classes of objects in accordance with standard classifications.

13. Cost accounting systems should be established wherever costs can be measured; depreciation should be

recognized in determining unit costs.

14. Common terminology and classification should be used consistently throughout the budget, the accounts, and the financial reports.

Procedures:

1. Accounts should be centralized under the direction of one officer who should be responsible for keeping or supervising all accounts and preparing and issuing all financial reports.

2. Budgets are essential for the proper management of the affairs of the governmental unit and should be prepared even if not required by law; fund distinctions should be made in such budgets.

3. As soon as purchase orders of contracts are signed, obligations should be recorded as encumbrances of the funds and appropriations effected.

4. Inventories of both consumable and permanent properties should be kept in subsidiary ledgers controlled by accounts in the general accounting system; physical inventories should be taken at least annually, and accounts and records brought into agreement with such inventories.

5. Accounting for municipal business enterprises should follow the standard classifications employed by similar private enterprises: accounting for public institutions should follow the standard classifications for such institutions.

6. Financial reports should be prepared monthly or oftener to show the current condition of budgetary accounts and the other information necessary to control operations, and a general financial report should be prepared and publicized at least once a year.

7. Financial reports of all municipalities of similar size and type should be generally uniform.

8. A periodic audit by independent accountants is desirable.

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